

Diptera Bioblitz Preliminary Results

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Each summer for the past few years Great Basin National Park has hosted a Bioblitz to target a specific group of invertebrates. They have invited scientists, volunteers and families to go to every conceivable place in the park and catch everything they could. Habitats in the park range from alpine at 3900 meters (13,000 ft) to salt desert shrublands at 1600 meters (5,300 ft).

This year Diptera was the focus of the extensive frenzy from June 19-21. With the help of several entomologists and a group of energetic volunteers, the 2012 Bioblitz was a great success. Thousands of flies were collected, adding many new families, genera, and species to the park's list. And good times were had by all. The Bioblitz officially started with a talk by Dr. Riley Nelson from Brigham Young University introducing the fly families, the goals of the trip, and the collection methods to be used. Participants were equipped with nets, vials, plastic bags, and some spiffy green water bottles supplied by the park's volunteer program. We received advice from Gretchen Baker, the park ecologist, on how to adequately record localities with a grid system and GPS. After being equipped, the participants were then unleashed into the 310-square-kilometer (120-square-mile) park with high hopes and fly dreams of glory (Figure 1).

Over fifty Bioblitz team members searched during the next 48 hours (Figure 2). This may not have been the largest Bioblitz in the park's history, but it turned out to be the most international group the Park has ever had, including a family from Hungary, a volunteer from Oman, and an expert dipterist from Germany. The Nevada State Entomologist and his team came. All were enthusiastic about this variation from their routine work.

After half a day of collecting we all assembled to hear a campfire talk entitled, "Desert Flies are

Voluptuous," featuring Dr. Riley Nelson (Figure 3). The talk was geared around dispelling the myth that flies are repulsive. The next evening, Dr. Ken Kingsley favored us with a talk called, "Through a Fly's Eyes" with some particularly interesting information about mosquitoes.



Figure 1. Sally Plumb, the Biodiversity Coordinator for the National Park Service, and a volunteer from Oman search for flies.



Figure 2. Rangers and a Junior Ranger search for flies.



Figure 3. Dr. Riley Nelson searches for flies in a cave entrance.

On Thursday morning, we took a jovial little hike up to the bristlecone pine forest and collected more flies as we enjoyed the beauty of 3982 m (13,063 ft) towering Wheeler Peak, the serene Teresa Lake, and the groves of 3,000-5,000 year old bristlecones. We collected hundreds of anthomyiids and ephydriids at the lake. One sweep of the net and it was black with flies! It was also amazing to be collecting asilids and syrphids under the old, gnarled branches of the ancient bristlecone pines.

The participants gathered the morning of 21 June to sort their findings (Figure 4). At noon, the Great Basin National Park Foundation provided a farewell luncheon, with the Western National Parks Association providing raffle prizes. At the conclusion of the luncheon Riley Nelson presented the preliminary results of the Bioblitz to volunteers.

The 2012 Diptera Bioblitz added a number of new families, genera, and species to Great Basin National Park's repertoire of flies. In the 48 hours allotted to the Bioblitz, team members gathered over 125 samples of flies from 47 different families, which added 19 new families to the park list. There were four families known to the park that we didn't find, but our additions brought the total number of Diptera families to 51! (Table 1).

The results remain incomplete as we continue to sort and identify the numerous samples. Check future issues of *The Midden* for updates. For more pictures visit http://www.flickr.com/groups/gbnp_bioblitz/pool/



Figure 4. Even young participants proved adept at sorting insects from vegetation.

Table 1. Flies of Great Basin National Park.**Scale of numbers in samples: abundant>common>rare>one.**

Family	Before Bioblitz	During Bioblitz	How many?	Family	Before Bioblitz	During Bioblitz	How many?
Agromyzidae	1	1	common	Periscelididae	0	1	one
Anthomyiidae	1	1	abundant	Phoridae	1	1	common
Asilidae	0	1	common	Psilidae	0	1	rare
Bibionidae	0	1	rare	Psychodidae	1	1	rare
Bombyliidae	1	1	common	Ptychopteridae	0	1	one
Calliphoridae	1	1	common	Rhagionidae	0	1	one
Carnidae	1	0	rare	Sarcophagidae	1	1	common
Cecidomyiidae	1	1	common	Scathophagidae	1	1	common
Ceratopogonidae	1	1	common	Scatopsidae	0	1	one
Chamaemyiidae	0	1	rare	Sciaridae	1	1	common
Chironomidae	1	1	abundant	Sciomyzidae	0	1	common
Chloropidae	1	1	common	Sepsidae	1	1	common
Clusiidae	0	1	one	Simuliidae	1	1	rare
Conopidae	1	1	one	Sphaeroceridae	1	1	rare
Culicidae	1	0	rare	Stratiomyidae	0	1	rare
Dixidae	0	1	rare	Streblidae	1	0	rare
Dolichopodidae	1	1	common	Syrphidae	0	1	common
Drosophilidae	1	1	rare	Tabanidae	0	1	one
Empididae	1	1	common	Tachinidae	1	1	common
Ephydriidae	1	1	abundant	Tephritidae	1	1	common
Heleomyzidae	1	1	rare	Tethinidae	0	1	one
Lauxaniidae	0	1	rare	Therevidae	1	1	rare
Micropezidae	0	1	one	Tipulidae	1	1	common
Milichiidae	0	1	one	Trichoceridae	1	0	rare
Muscidae	1	1	abundant	Ulidiidae	0	1	rare
Mycetophilidae	1	1	one	Total	32	47	